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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,092

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Ajay Kumar

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EXAMINER

NGUYEN, CINDY

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/824,092	<b>Applicant(s)</b> KUMAR, AJAY	
	<b>Examiner</b> CINDY NGUYEN	<b>Art Unit</b> 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

This is in response amendment filed 01/04/08.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7, 9, 10, 14-20, 22, 23, 27-33, 35 and 36 are rejected under 35

U.S.C. 102(e) as being anticipated by anticipated by Arthur Lee et al. "Building a persistent object store using the Java Reflection API" (hereafter Lee).

Regarding claims 1, 14 and 27, Lee discloses: a system, a method and a computer-accessible storage medium, comprising: a processor, (see section "conclusion and future work" lines 3, Lee); and

Memory (see section "object storage manager", Lee) coupled to the processor and configured to store program instructions executable by the processor to implement a class

structure based data object enhancer configured to (see section “limitations of the Java reflection API in implementing a persistent object store , Lee):

input one or more classes (i.e. load method, section “the life cycle of an object in the POS environment, Lee);

analyze the structure of the one or more classes to determine a persistence structure specifying data fields of the one or more classes to be persisted (i.e., a persistent object created from a persistent class that inherits the persistent root class is registered in the POS system as persistent by the constructor of the class... section “the life cycle of an object in the POS environment”, Lee); and

generate one or more enhanced classes corresponding to the one or more classes such that an object of the one or more classes is enhanced to persist data of the data fields to be persisted according to the persistence structure, wherein said data of the data fields to be persisted is data of said object (i.e., all the objects created from a class that inherits the persistentroot class will be persistent... see section “Persistentroot class”, Lee).

Regarding claims 3, 16, 29, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Lee discloses: wherein to analyze the structure of the classes, the class structure based enhancer is configured to parse bytecode (client code) of the one or more classes to determine class and field attributes (i.e., through the Java reflection API, we can access the meta information and the value of a field, so we can save the current state of an object by accessing the fields declared to be public or protected... see section “the life cycle of an object in the POS environment”, Lee).

Regarding claims 2, 15 and 28, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. However, Lee disclose: wherein to analyze the structure of the classes, the class structure based enhancer is configured to make one or more Java reflection calls to the one or more classes (i.e., Java reflection API, see section “the life cycle of an object in the POS environment”, Lee).

Regarding claims 4, 17 and 30, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Lee discloses: wherein the class structure based enhancer is further configured to generate metadata that includes the results of the analysis of the structure of the one or more classes (i.e., all a persistent class have to do is inherit the persistent root class, then the meta information that we need to save an object can be obtained through the Java reflection APL at run time... section “the life cycle of an object in the POS environment”, Lee).

Regarding claims 5, 18, 31, all the limitations of this claim have been noted in the rejection of claims 4, 17 and 30 above. In addition, Lee discloses: wherein the generated metadata is output explicitly as a metadata file (i.e., the meta data are used through the reflection API, this piece of code in the save method does not have to hard code the field names. All the field values of atomic data types are saved as such and object references are saved using the OID, the logical address, of the persistent object... see section “persistent root class”, Lee).

Regarding claims 7, 20 and 33, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Lee discloses: wherein the persistence

structure corresponds to the structure of the one or more classes (i.e., all a persistent class have to do is inherit the persistent root class, then the meta information that we need to save an object can be obtained through the Java reflection APL at run time... section "the life cycle of an object in the POS environment", Lee).

Regarding claims 9, 22 and 35, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Lee discloses: wherein to determine a persistence structure for the data of the one or more classes the class structure based enhancer is configured to apply one or more rules to the results of Java reflection calls to or byte code parsing of the one or more input class (i.e., all a persistent class have to do is inherit the persistent root class, then the meta information that we need to save an object can be obtained through the Java reflection APL at run time... section "the life cycle of an object in the POS environment", Lee)

Regarding claims 10, 23 and 36 all the limitations of this claim have been noted in the rejection of claims 9, 22 and 35 above. In addition, Lee discloses: wherein the one or more rules applied by the class structure based enhancer include persisting class fields that are not static or transient (i.e., the meta data are used through the reflection API, this piece of code in the save method does not have to hard code the field names. All the field values of atomic data types are saved as such and object references are saved using the OID, the logical address, of the persistent object... see section "persistent root class", Lee).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 8, 11, 13, 19, 21, 24, 26, 32, 34, 37, 39 are rejected under 35 U.S.C.

103(a) as being unpatentable over Arthur Lee et al. "Building a persistent object store using the Java Reflection API" (hereafter Lee) in view of Calusinski (US 2005/0071342).

Regarding claims 6, 19 and 32, all the limitations of this claim have been noted in the rejection of claims 5, 18, 31 above. However, Lee didn't disclose: wherein the metadata file is an extensible markup language (XML) file. On the other hand, Calusinski discloses: wherein the metadata file is an extensible markup language (XML) file (i.e., see paragraph 0033, Calusinski). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include XML file in the system of Lee as taught by Calusinski. The motivation being to provide a method for metadata object coded in XML.

Regarding claims 8, 21, 34, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Lee/ Calusinski discloses wherein the

persistence structure maps the data to be persisted to a single table in a database (i.e., simple mapping may be an algorithmically inferred one-to-one correspondence between fields in the business object and fields in the persistent data store , see paragraph 0062, lines 7-11, Calusinski).

Regarding claims 11, 24, 37, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Lee/ Calusinski discloses wherein the rules applied by the class structure based enhancer include storing persistent fields of a given class in a table corresponding to that class in a database (i.e., metadata describing the data structure of a persistent data stores, ..., see paragraph 0024, Calusinski).

Regarding claims 13, 26, 39, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. In addition, Lee/ Calusinski discloses, wherein the class structure based enhancer is further configured to output the enhanced one or more classes and a database schema for storing the data to be persisted in a persistent data store (see paragraph 0033-0034). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include wherein the class structure based enhancer is further configured to output the enhanced one or more classes and a database schema for storing the data to be persisted in a persistent data store in the system of Lee as taught by Calusinski. The motivation being to enable the system performs the tasks of storing and retrieving objects from the database (0046, Calusinski).



Claims 12, 25 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arthur Lee et al. "Building a persistent object store using the Java Reflection API" (hereafter Lee) in view of Chan et al. (US 6470494, hereafter Chan).

Regarding claims 12, 25 and 38, all the limitations of this claim have been noted in the rejection of claims 1, 14 and 27 above. However, Lee didn't disclose: wherein the one or more classes are comprised in a Java Archive (JAR) file. On the other hand, Chan discloses: wherein the one or more classes are comprised in a Java Archive (JAR) file (col. 5, lines 23-24, Chan). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include wherein the one or more classes are comprised in a Java Archive (JAR) file in the system of Lee as taught by Chan. The motivation being to creating jar files, flexibility in use and design of such programs would be enhanced if the entry name of a class file and other file to be placed in jar archive could be assigned a name that is independent of wherein the file is physically located on a file system.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu A. Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2161

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cindy Nguyen  
/C. N./  
Examiner, Art Unit 2161

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Supervisory Patent Examiner, Art Unit 2161

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